

broad valley of Black River. It was growing with typical *Draba brachycarpa* Nutt., but its taller unbranched stellate-hairy stems, remote and abbreviated corymbs arising from the middle and upper axils, together with the stellate-hairy siliques marked it as distinct from the commonly encountered *D. brachycarpa*.

Subsequent examination of the collection proved it to be *Draba brachycarpa* var. *fastigiata* Nutt., the same as *D. aprica* Beadle, and specimens were sent to Dr. Fernald for verification. In a letter received from him concerning the specimens, he states, "Your *Draba* is the best kind of *D. aprica* Beadle. It pretty clearly demonstrates that Nuttall's *D. brachycarpa* var. *fastigiata*, which has been a sort of spook, must have been a very dwarfed specimen of the same thing.

"We now have *D. aprica* in northern Georgia, Arkansas, and southeastern Missouri, which gives it a real range."

In other words, the collection of the Missouri specimens shows that *D. aprica* is not limited to Georgia, and that Nuttall's collection of *D. brachycarpa* var. *fastigiata* from Arkansas was authentically labelled, in view of the occurrence of the plant in the adjacent Ozarks of southeastern Missouri.

The writer's Missouri collections of this plant are in the Gray Herbarium and the Herbarium of Field Museum. They are taken from two counties: (1) St. Francis Shut-ins, 14 miles south of Fredericktown, Madison County, April 27, 1930, *J. A. Steyermark 1750*; and (2) growing with *D. brachycarpa* (22096) in alluvial low woods along Black River, between the mouth of Cave Spring Hollow and Logslide Bluff, T29N, R2E, Sect. 13 and 24, 6 miles northwest of Piedmont, Reynolds County, April 30, 1939, *J. A. Steyermark 22097*.

FIELD MUSEUM OF NATURAL HISTORY
Chicago, Illinois

THE GENUS *ELLISIA*

LINCOLN CONSTANCE

ELLISIA NYCTELEA L., now generally recognized as a member of the tribe *Hydrophyllae* of the *Hydrophyllaceae*, was usually placed with various members of the *Boraginaceae* in pre-Linnean works. Linnaeus first attempted to fit the species into *Ipomoea*, then into *Polemonium* and finally took it as the basis for his genus *Ellisia*, with the comment, "Proprii generis planta est." However, he had previously used the

name *Ellisia* to designate a group of plants commonly referred to *Duranta* L. of the family *Verbenaceae*. Thus, *Ellisia* was from the first a homonym in the *Hydrophyllaceae* and additional names were substituted by later authors, so that *E. Nyctelea* has appeared under five different genera subsequent to the adoption of the binomial system of nomenclature.

Trew¹ proposed the names *Macrocalyx* (in reference to the accrescent fruiting calyx) and *Colpophyllus* (descriptive of the dissected leaves), both presumably based upon *E. Nyctelea*. Scopoli² segregated the genus *Nyctelea* from *Ellisia* because he thought the former to possess solitary seeds and the latter, two seeds in each capsule. The type species of *Nyctelea*, however, was the same as the original species of *Ellisia*, namely *E. Nyctelea*. Fortunately, *Ellisia* has now been conserved over all other names for this genus.

The writer³ has proposed to retain *Ellisia* as a monotypic genus, removing *E. chrysanthemifolia* Benth., *E. micrantha* (Torr.) Brand and *E. Torreyi* Gray to *Eucrypta* Nutt. and *Ellisia membranacea* Benth. to *Pholistoma* Lilja. The disposition of those plants which have been erroneously referred to *Ellisia* is summarized in the section of the present article entitled "species excluded."

The reasons for the segregation of *Eucrypta* and *Pholistoma* have been fully presented in the paper herein cited. The species comprising *Eucrypta* possess placentae which are bifacially ovuliferous, a character sharply differentiating them from any other member of the same tribe. *Pholistoma* and *Ellisia* have closely similar fruits and seeds, but the characteristic prickly succulent and scandent habit of the former genus and its restriction to the southwestern United States and adjacent Mexico are but two of the more obvious features effectively dividing the two genera. *Ellisia* is about equally close to *Pholistoma* and to *Nemophila* Nutt., and Baillon⁴ actually merged all three genera, together with the species of *Eucrypta* that were known to him, under *Ellisia*. The writer believes these to be distinct natural genera whose incorporation would subordinate and mask important points of difference between species-assemblages which may very possibly have had quite distinct points of immediate origin.

Many specimens of *Ellisia Nyctelea* examined have been labeled

¹ Nov. Act. Nat. Cur. 2: 332 (1761).

² Introd. Hist. Nat. 183 (1777).

³ Madrono 5: 28-33 (1939).

⁴ Hist. des Pl. 10: 397 (1891).

“weed,” and the occurrence of this plant in cultivated or disturbed soil has been similarly indicated. For this reason it would seem likely that at least the edges of the distributional pattern may be blurred by sporadic introduction. Occurrences which are *known* to be adventive are excluded from the accompanying map. *Leersia lenticularis*, *Panicum meridionale* and its var. *albemarlene*, *Festuca paradoxa* and *Carex crus-corvi*, as mapped by Fernald,¹ although they usually occur to the southeast, afford a precedent for species predominantly of the prairies and plains of the interior reappearing upon the Atlantic coastal plain. The existence of such a discontinuity in range might suggest that the plant is adventive near mouths of rivers. This may well be the case, but two difficulties with this explanation should not be overlooked: (1) that the species was collected “in Virginia,” by Clayton, prior to 1753, and at Harper’s Ferry, by Pursh, in 1806; and (2) that although *E. Nyctelea* occurs widely on the dry plains of Wyoming and elsewhere, its most eastern localities appear to be only in humid situations along streams.

The writer is grateful to Mr. Reed C. Rollins, of the Gray Herbarium, who has painstakingly combed the obscure literature pertaining to this and related genera, and to Mr. Ira W. Clokey, South Pasadena, who has lent specimens for examination. The curators of the following herbaria have been most kind in lending the material in their care: California Academy of Sciences (CA); Cornell University (CU); Field Museum of Natural History (F); Gray Herbarium (G); Royal Botanic Gardens, Kew (K); Missouri Botanical Garden (M); New York Botanical Garden (NY); Oregon State College (OS); Pomona College (P); Academy of Natural Sciences, Philadelphia (PA); Rocky Mountain Herbarium, University of Wyoming (RM); Dudley Herbarium, Stanford University (S); University of California (UC); University of Oregon (UO); United States National Herbarium (US); University of Washington (UW); State College of Washington (WS).

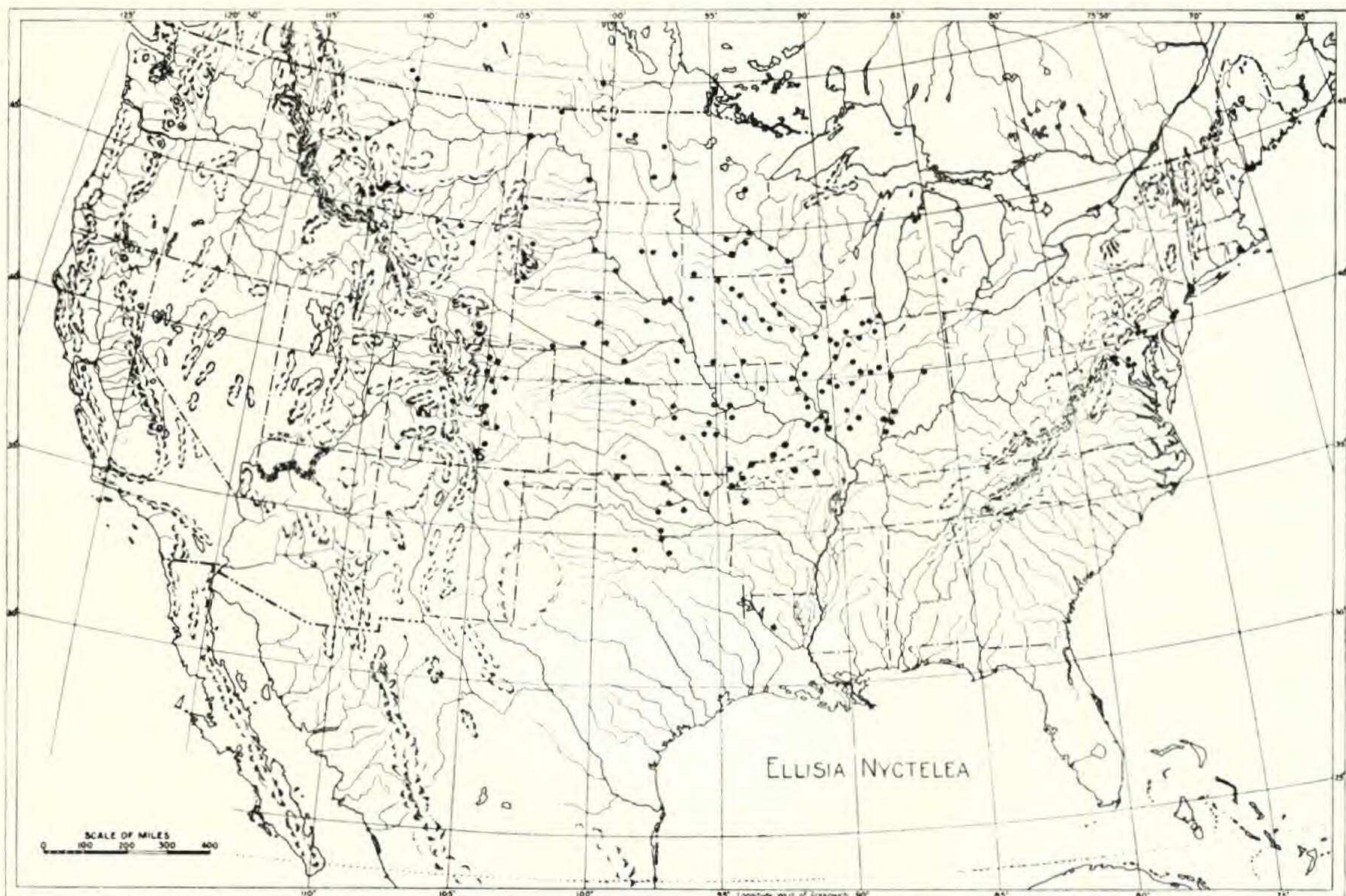
TAXONOMIC TREATMENT

ELLISIA NYCTELEA L. *Ipomoea Nyctelea* L., Sp. Pl., ed. 1, 160 (1753); *Polemonium* ? *Nyctelea* L., Sp. Pl., ed. 2, 231 (1762); *Ellisia Nyctelea* L., op. cit., 1662 (1763); *E. ambigua* Nutt., Gen. 1: 118 (1818); *Macrocalyx Nyctelea* O. Kuntze, Rev. Gen. 1: 434 (1891); *E. Nyctelea* var. *coloradensis* Brand, Pflanzenr. IV. 251: 39 (1913); *Nyctelea Nyctelea* Britt. in Britt. & Br., Ill. Fl., ed. 2, 3: 67 (1913); *N. ambigua*

¹ RHODORA 39: 349, map 22: 478, maps 43 and 46; 327, maps 6 and 9 (1937).

Standley, Proc. Biol. Soc. Wash. **32**: 143 (1919); *N. americana* Moldenke, Bull. Torrey Club **59**: 156 (1932).—Delicate annual, simple or diffusely branched, 1–4 dm. high, or reduced and more compact; stems slightly succulent, angled, retrorsely hispid; cotyledons with an oblong-oval blade, 10–15 mm. long, 5–7 mm. broad, tapering slightly at base into a slender petiole of greater length; lowest leaves opposite, the others alternate; the lower oblong to ovate, 3–8 cm. long, 1–3 cm. broad, acute at apex and truncate or subcordate at base, pinnately divided into 7–13 oblong obtuse or acute divisions which are entire or again toothed; uppermost leaves smaller, deltoid-ovate and short-petioled, all sparingly hispidulous on both surfaces, hispid on the margins and on veins below, thin, membranous and venose; petioles of lower leaves about equalling blades, very narrowly winged and slightly clasping at base; flowers solitary, opposite the alternate leaves or several in a few-bracteate, secund, raceme-like terminal cyme; calyx broadly campanulate, cleft nearly to base into 5 lanceolate or ovate-lanceolate lobes, 3–5 mm. long, 1–2 mm. broad, auricles 0, but a sepaloïd tooth present in the sinus in some specimens, both sepals and teeth bristly on the margins and more or less hispidulous on the surfaces; corolla 7–8 mm. broad, narrowly campanulate, white or bluish, the 5 oval lobes conspicuously shorter than the tube, the whole corolla shorter than or about equalling the calyx; corolla-scales oblong, minute, the free tips fimbriate; stamens 5, shorter than the corolla-tube, anthers about 0.2 mm. long, oval or oblong; pollen grains smooth, tricolpate; style 1–2 mm. long, cleft less than one-half; mature capsule 5–6 mm. in diameter, 1-celled, globose, hispid with scattered hairs, exceeded by the strongly accrescent, stellate-rotate calyx; seeds usually 4, 2–3 mm. in diameter, globose, dark brown, regularly reticulate; cucullus 0.—TYPE: “Habitat in Virginia. *D. Gronovius* [Clayton].”—Atlantic slope, principally on the Delaware, Susquehanna and Potomac rivers; prairies and plains from Michigan, Saskatchewan and Montana south to Oklahoma and New Mexico.—NEW YORK: Fort Washington, *Bicknell 7301* (NY, PA). NEW JERSEY: Somerset, Mercer Co., *F. J. Hermann 4270* (M). PENNSYLVANIA: Morrisville, Bucks Co., *James* (G, M); opposite Marietta, York Co., *Knipe* (F, PA). MARYLAND: Bald Friar, Cecil Co., *J. J. Carter* (G, NY); Great Falls of the Potomac, *Holm* (F, G). DISTRICT OF COLUMBIA: Washington, *Morong* (M, NY), *Holm* (CA, G). VIRGINIA: Bluemont, Loudon Co., *Standley 13197* (US); Potomac River, Fairfax Co., *Hotchkiss 1934* (CU). WEST VIRGINIA: Harper’s Ferry, Jefferson Co., *Pursh* (PA). MICHIGAN: Lansing, Ingham Co., *Yuncker 91* (US). INDIANA: Indianapolis, Marion Co., *Friesner 9596* (F); Crowleyville, Gibson Co., *Deam 50056* (F, G, M, NY). WISCONSIN: Beloit, Rock Co., *T. J. Hale* (F, G, M, PA). ILLINOIS: “Wabash”, *Nuttall* (G, ? isotype of *E. ambigua*); Chicago, *H. H. Babcock* (G, US); Oquawka, Henderson Co., *H. N. Patterson* (G, M, NY, OS, PA, UC, US); Wady Petra, Stark Co., *V. H. Chase 1351* (M, PA, US); Peoria, Peoria Co.,

F. E. McDonald (G, NY, RM, US), *J. R. Churchill* (CU, G, M); Augusta, Hancock Co., *S. B. Mead* (G, M, NY, PA, US); Decatur, Macon Co., *Clokey 2409* (Clokey, M, NY, RM, US); Muncie, Vermilion Co., *Gleason* (CA, G, S). MINNESOTA: Nichols, Aitkin Co., *Sheldon* (G, NY, UC, US, WS); Winona, Winona Co., *Holzinger* (RM, UC, US). IOWA: Armstrong, Emmet Co., *Cratty* (M, NY, PA, S, US); Ames, Story Co., *Ball & Preston 468* (G, M, RM, US); Grinnell, Poweshiek Co., *M. E. Jones* (CA, G, M, P, RM, S, UC, US).



Map 1. Geographical Distribution of *ELLISIA NYCTELEA*

(Map used through the courtesy of the Standard Process & Engraving Co., Berkeley, California)

MISSOURI: Courtney, Jackson Co., *Bush 7922* (M, PA, S); St. Louis, *N. Riehl 184* (K, M, NY), *Eggert* (F, M, P, RM, UC, UO, US); Noel, McDonald Co., *E. J. Palmer 5427* (CU, M, P). ARKANSAS: "Arkansas," *Pitcher* (NY, PA); "N. W. Arkansas," *F. L. Harvey 196* (US). MANITOBA: Portage la Prairie, *Macoun & Herriot* (G). SASKATCHEWAN: *Bourgeau* (G, K); Medicine Hat, *Macoun 5544* (M, NY, US). NORTH DAKOTA: Lake Ibsen, Benson Co., *Lunell* (G, NY, RM); Fargo, Cass Co., *Bolley 160* (CU, G, NY, PA, RM). SOUTH DAKOTA: Fort Meade, *Forwood 362* (US); Fort Pierre, *Geyer 53* (K), *447* (US); Oreville, etc., *Rydberg 887* (G, K, NY, US). NEBRASKA: Fort Niobrara, *Wilcox* (NY); Lincoln, Lancaster Co., *J. L. Morrison 987* (M, US). KANSAS: Riley Co., *J. B. Norton 340* (G, M, NY, RM, US);

Osborne City, Osborne Co., *C. L. Shear 48* (F, G, NY, US); Paola, Miami Co., *Oyster* (CA, M). OKLAHOMA: "On the False Washita, between Fort Cobb and Fort Arbuckle," *E. Palmer 193* (NY, US); Alva, Woods Co., *G. W. Stevens 694* (G, M, NY, S, US); Fort Sill, Comanche Co., *Clemens 11740* (CA, M, RM). NEW MEXICO: Sierra Grande, Union Co., *Standley 6162* (US). COLORADO: Fort Collins, Larimer Co., *Crandall 1596* (F, M, RM, US); Cerro Summit, Montrose Co., *C. F. Baker 154* (G, M, NY, P, RM, S, UC, US, isotypes of *E. Nyctelea* var. *coloradensis*); Sangre de Cristo Creek, Castilla Co., *Rydberg & Vreeland 5751* (NY, RM). WYOMING: Sheridan-Buffalo, *Tweedy 3505* (NY, RM, WS); Hulett, Crook Co., *L. O. Williams 2372* (G, M, US, WS); Halleck Canyon, Albany Co., *A. Nelson 7425* (G, M, NY, P, RM, US); Pole Creek, *A. Nelson 141* (CU, G, M, NY, P, RM, US). MONTANA: Fort Benton, *Pearsall 895* (US); Belt River, etc., *R. S. Williams 127* (NY, US); mouth of Shields River, *Scribner 166* (G, PA); Bozeman, Gallatin Co., *Blankinship 534* (F, M, PA); Pony, Madison Co., *Rydberg & Bessey 4858* (F, NY, US). ALBERTA: Rosedale, *M. E. Moodie 910* (Clokey, F, G, M, NY, RM, S, US).

The priority and validity of the specific name *Nyctelea* has not been questioned, and only the elevation of this epithet to generic rank, producing the tautonym *Nyctelea Nyctelea*, has made room for the introduction of alternate specific names. *E. ambigua* has generally been regarded as a slender and probably immature plant of *E. Nyctelea*. If that be the case, as the present writer is convinced it is, then *ambigua* would be the next available name for this species if *Nyctelea* were to supersede *Ellisia* in generic status. This was the avowed reason for the combination, *Nyctelea ambigua* Standley. Moldenke coined *N. americana* to fill the same supposed gap, apparently unaware that Standley's new name (to which Moldenke refers) had already closed it, and made *N. americana* a name totally unnecessary under any known code. With the conservation of *Ellisia*, the binomial *E. Nyctelea* is firmly established for this much named plant.

A supposed extreme western representative of the species, with a depressed and more pubescent habit and shorter styles, was the basis for var. *coloradensis* Brand. Even some of the isotypes do not conform to Brand's description, but pass readily into the usual slender and diffuse form. Typical *E. Nyctelea*, moreover, occurs much farther west than the type locality of the supposed variety, and the alleged varietal distinctions seem to be only habital modifications associated with a less favorable environment.

SPECIES EXCLUDED

1. *Ellisia chrysanthemifolia* Benth., Trans. Linn. Soc. **17**: 274 (1834).
EUCRYPTA CHRYSANTHEMIFOLIA (Benth.) Greene.
2. *E. fremontii* (Elmer) Brand, Pflanzenr. IV. **251**: 41 (1913).
NEMOPHILA PULCHELLA Eastw. var. **fremontii** (Elmer), n. comb.
(*N. fremontii* Elmer, Bot. Gaz. **41**: 319 (1906).)
3. *E. membranacea* Benth., op. cit., **17**: 274 (1834). PHOLISTOMA
MEMBRANACEUM (Benth.) Constance.
4. *E. membranacea* var. *hastifolia* Brand, op. cit., 38 (1913). PHO-
LISTOMA MEMBRANACEUM (Benth.) Constance.
5. *E. micrantha* (Torr.) Brand, op. cit., 42 (1913). EUCRYPTA
MICRANTHA (Torr.) Heller.
6. *E. microcalyx* Nutt., Trans. Amer. Philos. Soc., n. s., **5**: 191
(1832). NEMOPHILA MICROCALYX (Nutt.) F. & M.
7. *E. ranunculacea* Nutt., op. cit., 191 (1832). PHACELIA **ranuncu-
lacea** (Nutt.), n. comb.

This name has always been considered a synonym of *N. microcalyx*, but Nuttall mentions "racemes 5-10?-flowered," whereas the flowers of *N. microcalyx* are always solitary. The reason for the confusion of Nuttall's two species seems to lie in the similarity of their leaf-form, which has led to their being mixed on herbarium sheets, even those in Nuttall's collections. An examination of a photograph of the type of *E. ranunculacea* at the British Museum and of authentic material at the Gray Herbarium, at Kew and at Philadelphia, clearly shows that *E. ranunculacea* is not only a *Phacelia*, but is conspecific with the plant that has been known as *P. Covillei* Wats. The Nuttallian name was validly published more than fifty years before that of Watson, and must, accordingly, supersede it.

8. *E. Torreyi* Gray, Proc. Amer. Acad. **20**: 302 (1885). EUCRYPTA
CHRYSANTHEMIFOLIA var. BIPINNATIFIDA (Torr.) Constance.
9. *E. Torreyi* var. *bipinnatifida* (Torr.) Brand, op. cit., 42 (1913).
EUCRYPTA CHRYSANTHEMIFOLIA var. BIPINNATIFIDA (Torr.) Constance.
10. *E. Torreyi* var. *Orcuttii* Gray, Synop. Fl. **1**, pt. 2, 413 (1888).
EUCRYPTA CHRYSANTHEMIFOLIA (Benth.) Greene.
11. *E. Torreyi* var. *paniculata* Brand, op. cit., 41 (1913). EUCRYPTA
CHRYSANTHEMIFOLIA (Benth.) Greene.

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